

Assignment

Write

Explain how to compare the difference of means with the variation of two populations in order to interpret the differences between the two populations.

Remember

Data for two populations may overlap. Comparing the measures of center and variation for the two populations can help you interpret the differences between the two populations.

Practice

The head librarian at the Branford Public Library is investigating the current trends in technology and the effects of computers and electronic books on the loaning of books. She thinks that the users at the library on the computers are generally younger than the people who actually check out books. She asks the ages of a sample of both computer users and book borrowers. The results are shown in the table.

1. Display the results on a dot plot. Use an "o" to represent the computer users' ages, and an "x" to represent the book borrowers' ages from the information in the table.
2. Display the results using a stem-and-leaf plot. Be sure to include a key.
3. Describe the distribution of data values for the computer users and the book borrowers.
4. Calculate the mean age of the computer users and the mean age of the book borrowers.
5. Calculate, interpret, and compare the mean absolute deviations for both the computer users and the book borrowers.
6. Determine the five-number summary for the computer uses and the book borrowers.
7. Calculate, interpret, and compare the IQR for both the computer users and the book borrowers.
8. What can you say about these two populations?

Patron		Age
Computer user	Book borrower	
C		27
C		16
	B	57
C		20
	B	55
	B	60
C		22
	B	59
	B	63
C		20
C		24
	B	63
	B	60
C		22
C		20
C		17
	B	66
	B	60
	B	55
C		25

Stretch

Let the difference in means between two data sets be k . Let the mean absolute deviation for the first data set be m and the mean absolute deviation for the second data set be n . Is it possible for the data sets to overlap if both $\frac{k}{m}$ and $\frac{k}{n}$ are greater than 1? If so, provide an example.

Review

- Louie is using a computer program to randomly generate a digit from 1 to 6. Which statement most accurately describes how many times Louie's program will generate a 3 if he runs it 300 times? Explain your choice.
 - exactly 50 times
 - approximately 50 times
 - exactly 100 times
 - approximately 100 times
- The school cafeteria has a hot food line and a cold food line for both breakfast and lunch. The cafeteria manager wants to estimate the percentage of students who select their meals from the hot food line. The manager collected data from the first 50 students who arrive for lunch and determined that 42% of students select their meals from the hot food line. Which statement is true about the cafeteria manager's sample? Explain your choice.
 - The sample is the percent of students who select foods from the hot food line.
 - The sample shows that exactly 42% of the student body select food from the hot food line.
 - The sample might not be representative of the population because it only included the first group of lunch students.
 - The sample size is too small to make any generalizations.
- The spinner is divided into 8 equal sections. Determine each probability.
 - $P(\text{greater than } 3)$
 - $P(\text{not greater than } 3)$
- Determine each difference.
 - $-7.7 - (-77.7)$
 - $4\frac{1}{5} - 10\frac{3}{4}$

